Plagiarism Scan Report

Summary	
Report Genrated Date	11 Apr, 2017
Plagiarism Status	92% Unique
Total Words	677
Total Characters	4575
Any Ignore Url Used	

Content Checked For Plagiarism:

INTRODUCTION

Making of an impression is a routine procedure in the dental clinic that involves selection of an appropriate impression material and technique. The impressions will be then poured with dental stone for use as study models, or models and dies for the fabrication of appliances, indirect restorations and prostheses. An appropriate infection prevention protocol must be followed before, during and after impression taking to avoid cross-contamination and the risk of disease transmission. Set impressions have been found to contain microorganisms – bacteria, fungi and viruses – following their removal from the patient's mouth, through transport to the laboratory and have also been shown to transmit microorganisms into stone and plaster while models are being poured.1 As such, they represent a risk for disease transmission to dental healthcare workers, transporting personnel, and laboratory personnel through indirect contact. Therefore, an appropriate infection control protocol must be followed to prevent cross contamination and the transmission of disease.2

An impression is made by placing a viscous impression material into the mouth via a custom or stock dental impression tray. The material, then sets on cooling or through a chemical reaction to become a solid, and, when removed from the mouth, provides a detailed and stable negative of teeth. A plethora of materials are available for the purpose of impression making, which is considered as one of the most important steps in prosthodontics. Each of these materials has certain advantages and disadvantages. An understanding of the physical characteristics and limitations of each material is necessary for its successful use in clinical dentistry. The most commonly used materials for dental impressions are sodium alginate, polyether and silicones . In early days, plaster of Paris, zinc oxide eugenol and agar have been used.

Of all materials used for impressions, hydrocolloids and elastomers are the most important in this field. The hydrocolloids are subdivided in reversible and irreversible. Alginate is an example of irreversible hydrocolloid and is the most commonly used material in Dentistry since it is easy to manipulate, does not imply specialized equipment and is low-priced.3 Alginate is based on natural substance extracted from brown seaweed. As irreversible hydrocolloids are composed of 80% of water they are subject to the phenomena of imbibitions and syneresis.4

Dental impressions become contaminated with the patient's saliva, bacterial plaques, and blood. This offers a significant cross-infection vehicle for dangerous pathogens. The control of cross-infection is an imperative issue when dealing with dental impression materials and the lack of procedures for its control is currently a real problem. Irreversible hydrocolloid being partly organic, hydrophilic, irregular and porous in nature provides for retention and growth of microorganisms.5 Dental impressions need to be washed and disinfected immediately after making, to control transfer of infectious diseases from saliva and blood of the patient to dentists and technicians. It is now a requirement of standard cross-infection protocols that impressions are delivered to the laboratory after disinfection.1

The routinely used disinfectants such as sodium hypochlorite, glutaraldehyde, phenol and iodophor have several deleterious effects on both health and environment which can include burning sensation of mouth and throat, irritation of eyes, watering of eyes etc.6 ALOE VERA has been used medicinally for a few thousand years and also finds vivid use in dentistry as well.
Amongst the various species of aloe vera, that are available the one with medicinal value is ALOEVERA BARBADENIS7. The main advantage of use of aloe vera as a disinfectant is that it being a natural product has no or minimal side effects, easily available and most importantly being 100 percent biodegradable, does not cause any harm to the environment.
Hence this study is planned to evaluate the efficacy of aloevera, sodium hypochlorite, glutaldehyde, idophor and phenol as disinfectant on irreversible hydrocolloid.

AIMS AND OBJECTIVES

To evaluate the efficacy of 5 different disinfectant solutions on irreversible hydrocolloid.

HYPOTHESIS

It is hypothesized that there is no difference in the efficacy of Aloe vera as a disinfectant solution when compared to the four commonly used disinfectants (Iodophor, Phenol, Glutarldehyde, Sodium hypochlorite) on irreversible hydrocolloid used over a variable time interval.

SmallSeoTools.com

Plagiarism Scan Report

Summary	
Report Genrated Date	11 Apr, 2017
Plagiarism Status	93% Unique
Total Words	699
Total Characters	4391
Any Ignore Url Used	

Content Checked For Plagiarism:

MATERIALS AND METHODOLOGY
Source of Data: Invitro study.
Method of collection of data :
The present randomized experimental study was carried out with the cooperation of Department of Microbiology, Rama Dental College, Kanpur, aiming at evaluating the disinfection effect of: sodium hypochlorite %0.525 (RANKEM), 2% Glutaraldehyde (CIDEX), 5% Phenol (LABSAFE), 1.75% Iodophor (D – 125), and Aloe vera (99.96% pure, Patanjali Ayurved) on the alginate impression material (NEOCOLLOID: Batch No. C– 302205).
Sampling Method:
An appropriate mixture of water and alginate powder will be prepared in a bowl with a sterile spatula according to the manufacturers' instructions. Then the mixture will be poured into a 5 cc sterile syringe; after the required time for material setting, the impression material will be cut off and removed with a number 10 surgical blade from the end part of the syringe to different slices with 2 mm thickness. A total of 160 discs will be prepared. In order to assure that the discs were kept sterile during preparation, five discs will be selected as negative controls (blank) and will be incubated on TSB culture for 24 to 48 hours, after which the bacterial growth will be examined. And five more discs will be used as positive controls to check for any microbial pollution. To investigate the effect of different disinfectant materials, 50 discs will be used for each bacterial species. From 150 discs, 99.96% aloe vera will be used to disinfect 30 of them for 10 minutes. 30 discs will be disinfected with 2% glutaraldehyde for 10 minutes, 30 discs will be selected for disinfecting with 0.525 % sodium hypochlorite for 10 minutes, 30 discs will be selected for disinfecting with 5 % phenol for 10 minutes and 30 discs will be selected for disinfecting with 1.75% iodophor for 10 minutes.
Preparation of Bacterial Suspension and Yeast
For each type of susceptibility testing, a standard inoculum of bacteria must be used.
The standard inoculums will be prepared to match the turbidity of 1.5 × 108 cfu/mL (equivalent to 0.5 McFarland) by transferring 1-2 colonies of 18–24 hours cultures to TSB medium and incubating at 35°C. For Candida albicans fungus, the samples will be taken from 48 hour Saborosa and Dextrose agar cultures.
Contamination of Samples
To evaluate the disinfection effect of above mentioned five substances, discs will be separately polluted with microbial solutions of Staphylococcus aureus (ATCC29213), Pseudomonas aeruginosa (ATCC27853), and Candida albicans fungus (PTCC5027). The discs will be kept in sterile test tubes separately with 1 cc of microbial suspension each and will be incubated at 35°C for one hour.
Disinfection of Samples and Microbiological Surveys
After contamination, all samples will be rinsed with sterile distilled water for 30 seconds. In order to

disinfect all samples except controls, either 99.96% aloe vera, 2% glutaraldehyde, 0.525% sodium hypochlorite, 5% phenol or 1.75% iodophor will be used on each disc applying spray method for 10 puffs in 15 seconds. Then the discs will be kept into sterile plastic bags containing sterile humidified cotton to form a moisturized environment for 10 minutes.

Trypsin protease, which is able to isolate the microbes from contaminated environments, will be was used. The recommended time and concentration for the effective use of trypsin is 60 minutes and 2%, respectively. This time concentration is based on the maximum microorganisms which can be isolated from the samples. After washing the discs with sterile distilled water for 30 seconds, they will be kept in trypsin 2% solution for 60 minutes. The suspensions of 1/2 and 1/4 trypsin solution will then be prepared. Using 100 micro liter sampler, these samples will be transferred to Mueller-Hinton agar for the Pseudomonas aeruginosa and Staphylococcus aureus. Also Saborow Dextrose agar (SDA) medium will be used to investigate the presence of Candida albicans fungus. Using a Pasteur pipette bent with heat at 90 degrees, the samples will be spread on cultures. After 24 and 48 hours incubation, the grown bacterial colonies on culture will be counted. The grown fungus colonies of Candida albicans on SDA will be counted after 72 hours.

SPSS software will be used for data analysis edition 11.5, and Mann-Whitney test will be conducted to compare the efficacy of different disinfectant materials.

Report generated by smallseotools.com